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EP 0507459 A1

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US 5133477 A

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(54) Device for dispensing pieces of adhesive strip

(57) The device, which is particularly for dispensing dressings, comprises pieces of pressure-sensitive adhesive strip 3 at least a part of each of which is releasably adhered to the non-stick front face 2a of a backing sheet 2. The sheet itself is provided on its other face with means such as double-sided adhesive tape 4 for securing it to a holding element 10 such as a table or trolley, thereby enabling one-handed removal of the dressings etc. A part 3b of each strip may extend beyond an edge of the sheet, the projecting part being covered with a removable protector 6 which may carry a tab for grasping. The backing sheet may be provided with lines of weakness and the strips may be covered with a protective sheet secured to the backing. The strips may alternatively be packaging strips or labels.

Fig.1

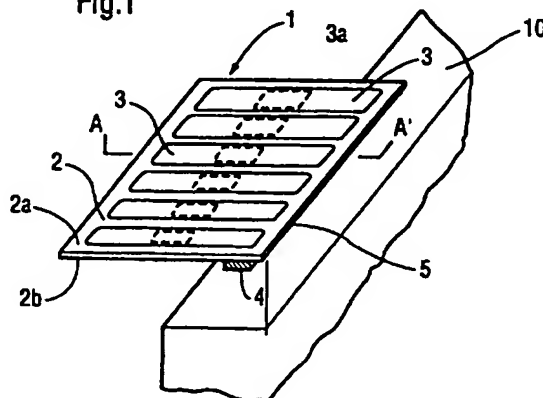
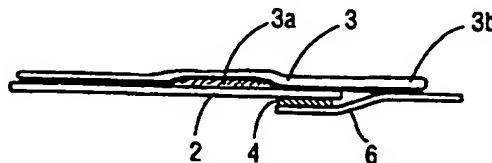


Fig.3



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Fig.1

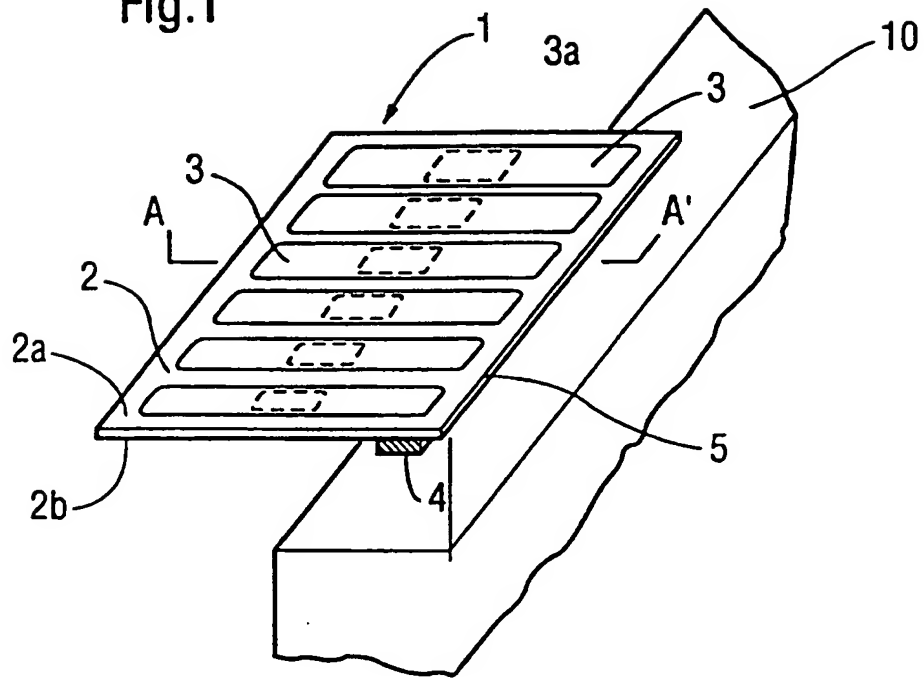


Fig.2

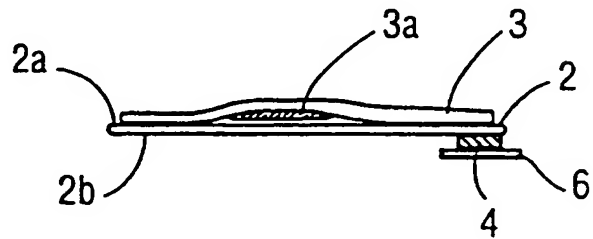


Fig.3

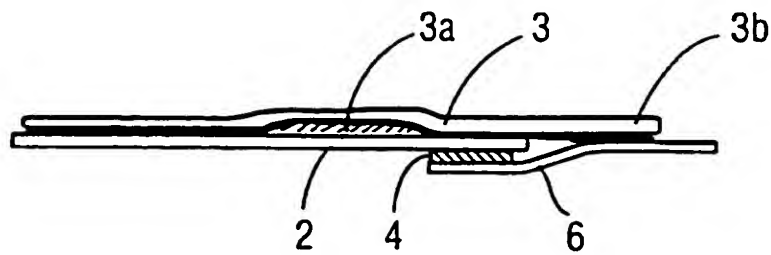


Fig.4

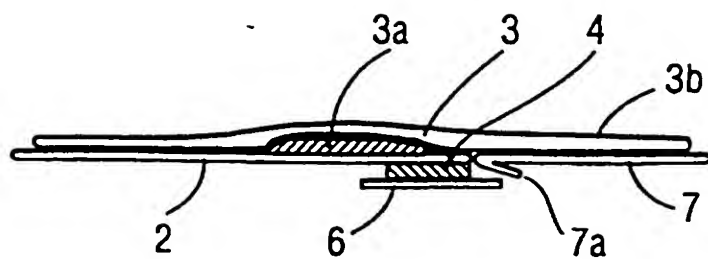


Fig.5

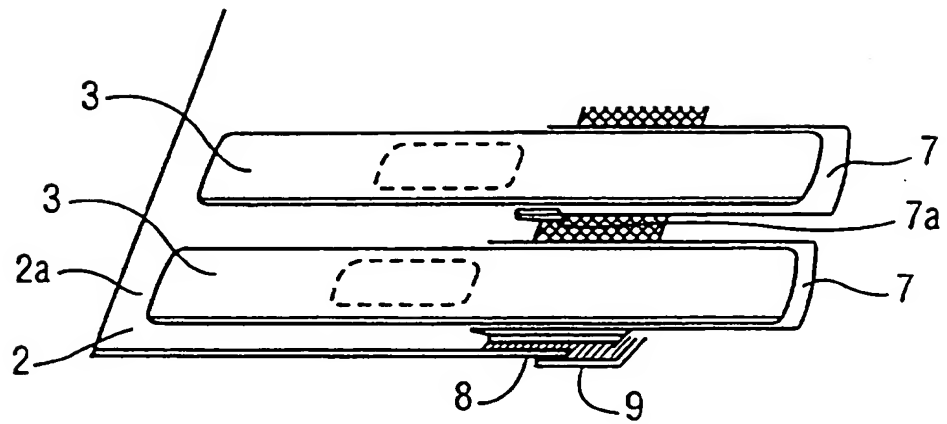


Fig.6

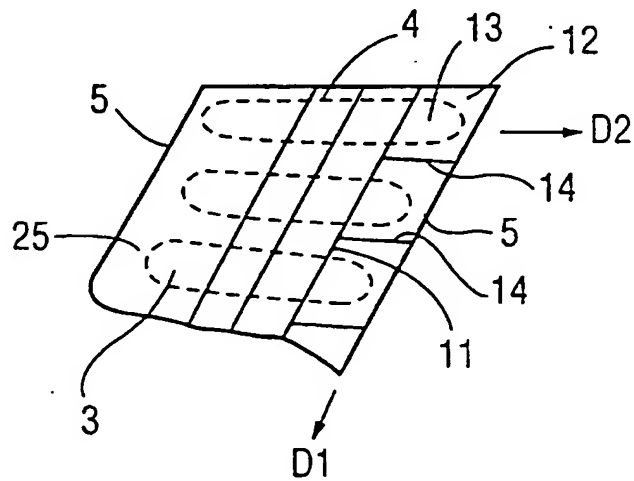
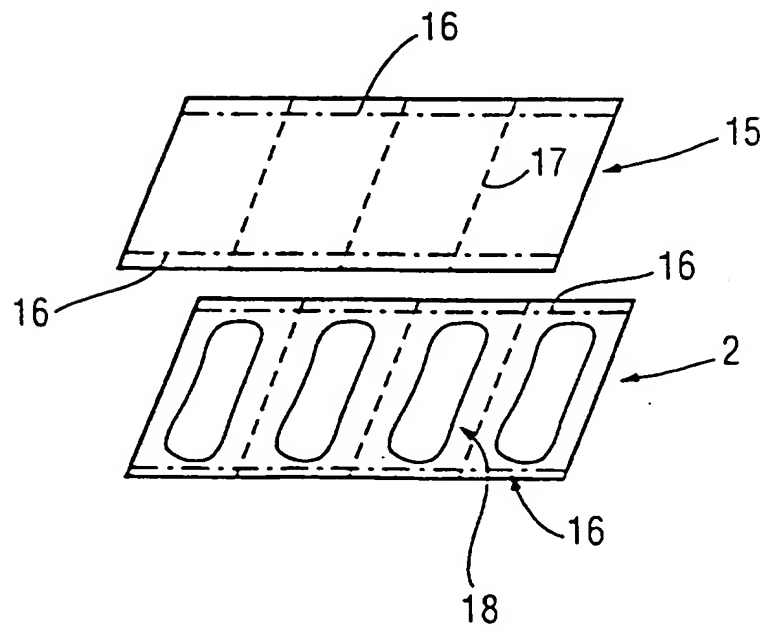


Fig.7



DEVICE FOR DISPENSING PIECES OF ADHESIVE STRIP

The present invention relates to a device for dispensing adhesive strips, particularly dressings, provided or presented in pieces; the device allowing a piece of the strip to be taken using only one hand.

5 Prior Art

Generally, when using adhesive tapes, first it is necessary to take a piece of the strip; this piece may be cut from a rolled up strip without protectors, from a rolled up strip with a removable protector, or from a strip presented in a different way, the piece having already been precut and provided with a
10 removable protector.

Rolls of tape are, for example, packing tape, adhesive tape for DIY, insulation tape, or tape intended for attaching objects or documents: known dispensing systems are dispensers, generally equipped with a cutting system. These
15 dispensers may be simple or further modified, such as, the dispensers for packing tape, for example, or the weighted-down office dispensers which allow a length of strip to be unrolled and cut using just one hand.

An example of tape in the form of pre-cut pieces are dressings, which come
20 with a removable protector, particularly when these dressings are provided with a compress. Such an arrangement, which has the advantage of allowing an individual package, has a significant drawback: getting the dressing ready for use, i.e. getting it out of its package and removing at least some of the protection, involves an operation using both hands.

25

Now, it is sometimes the case that the first aider, or the casualty himself, may also need to hold a compress which is going to be held on by the dressing, for example, and may therefore not have both hands available for preparing the dressing. In such a case, the first aider may request assistance
30 from the casualty, or may prepare the dressing before carrying out his

treatment, with a risk of it becoming contaminated during this time. It is therefore desirable to find means of dispensing pieces of adhesive strip, such as a dressing, which may release a piece of the strip using just one hand.

- 5 There is known for example in this field, French Patent No 2,409,210 in which a dressing, presented in a pouch, has one of its two half protectors held in the packaging, and which can be extracted leaving at least part of the protective sheet in the package. This arrangement avoids having to remove one of the protectors but it is still necessary to have both hands available to
10 extract the dressing whilst holding onto the pouch.

- French Patent No 2,409,210A relates to the packaging and a method of manufacturing the same; the packaging for medical sticking plasters consisting of two sheets joined together along two of its edges and between
15 which plasters are arranged, each plaster being covered with two removable half protectors. Over a first of the half protectors there is a fixed retaining means, such that when that end of the plaster that is covered with the second half protector is pulled, the plaster can be extracted from its packaging at the same time detaching it from the first half protector, which
20 remains inside the packaging. Parting lines are provided in the packaging so that individual packages can be produced for each sticking plaster, as is known from other sources in the field of packaging for dressings.

- This packaging nevertheless has the disadvantage that the carer needs to
25 have both hands available for extracting the sticking plaster or dressing from the overall package or from the individual package.

- In an alternative form, the collective packages for several sticking plasters are joined together and arranged in a pouch.

30

However, here too, the pouch needs to be held in one hand and the sticking plaster extracted with the other hand.

Document FR-A-2,422,389 describes a box or container intended to contain a pouch of packages for sticking plasters as described in FR-A-2,409,210. Extracting the sticking plasters still requires the use of both of the carer's hands, because he needs to hold the box in one hand in order to extract a sticking plaster with the other hand. To prevent sticking plasters or dressings that have not been used becoming lost or left behind in the place of use, the box is adapted to be fixed to a wall, using screws or by a self-adhesive means, such that all the dressings are kept fixed in a specific place, and only a small number of individual dressings can be taken away for the care to be given. However, when the dressings are taken to the place of use, in its collective or individual packages, it is necessary once again to use both hands to extract each dressing.

Object of the Invention

The present invention proposes a new device for dispensing pieces of adhesive strip, especially adhesive dressings, which has the advantage of rendering these accessible using just one hand at the place of use.

Description

According to the invention, the device for dispensing pieces of adhesive strip arranged on a front face of a backing sheet is characterized in that at least a part of the pieces of strip is releasably adhered to the said front face of the backing sheet; and in that the device further comprises means for securing the backing sheet to a holding element for holding the said device.

The main use of such a device is in dispensing self-adhesive dressings, especially when they are being used in an analysis laboratory or in hospitals.

The invention also proves useful in making pieces of adhesive strip available in a practical way especially for packaging operations or technical attachment operations, such as, for example, in the assembly of electrical circuits.

Detailed Description

As the main application of the invention is a dispenser for adhesive dressings, the detailed description which follows is given for this specific example. This should not be considered as a limitation to the device which can be used in a similar way for any type of adhesive strip which can be used in the form of pieces.

In order to produce a dressing dispenser device according to the invention, use is made of a backing in the form of a paper or plastic sheet, of which one of the faces, designated the front face, is coated with a non-stick release layer and at least one dressing (or preferably several dressings arranged parallel to each other) is (are) placed on this first face. An adhesive strip is then fixed to the second face of the backing, designated the rear face or back face, so that, for example, one of the two borders of the backing, corresponding to the end of the dressings, is made sticky. This adhesive strip may be obtained by depositing a layer of adhesive using known techniques or by affixing a strip of double-sided adhesive tape. This provides a simple version of the invention.

To put the invention into use, the user fixes the backing sheet to a surface of a holding element, for example a table or a trolley or any other hard surface near to the place where care is being given, by means of the adhesive strip. The user can thereafter take the dressings one by one, pulling them off with just one hand, with the backing sheet remaining securely fixed to the holding element. The dressing taken is freed of its protector when there is one, and can be used directly to hold a pad in place, for example, or to cover a wound.

Preferred embodiments of the invention are described below, with reference to the attached drawings in which:

Figure 1 is perspective view of a dressing dispenser

according to a first embodiment of the invention;

Figure 2 is section view on the line A-A' of the dispenser of Figure 1;

5

Figure 3 is a section view of a dressing dispenser according to a second embodiment of the invention:

10

Figure 4 is a section view of a dressing dispenser according to a third embodiment of the invention;

Figure 5 is a perspective view of a dressing dispenser according to a fourth embodiment of the invention;

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Figure 6 is a view from the rear of the dispenser according to another embodiment of the invention; and

20

Figure 7 is a diagrammatic and exploded perspective view of a dispenser according to another embodiment of the invention.

Figure 1 depicts a perspective view of a dressing dispenser 1 according to the invention, comprising a backing sheet 2 of which one of the faces 2a, designated the front face, is provided with a non-stick release coating. Face 2a carries adhesive dressings 3 arranged in parallel. A band of double-sided adhesive tape 4 is affixed to the face 2b, designated the rear or back face, of the support 2. The double-sided adhesive tape 4 is located parallel to one of the longitudinal edges 5 supporting one end of the adhesive dressings 3. It is preferred that the adhesive tape 4 is affixed close to one of the edges 5. The backing sheet 2 is intended to be fixed to a holding element 10 which may, for example, consist of any hard surface near to the place where care is given. As the backing sheet 2 needs to be held firmly fixed to the holding element 10, the adhesive chosen for the tape 4 is one which forms a

stronger adhesive bond than that with which the adhesive dressings 3 are stuck to the face 2a of the said backing sheet. In this way, when one of the dressings 3 is detached from the backing sheet 2, the backing sheet 2 does not become detached from the holding element 10. Thus once the backing sheet 2 has been affixed to the holding element 10, the carer can take off the dressings 3 one after another as required using only one hand.

Figure 2 depicts a section on AA' of the dispenser 1, and this figure shows the backing sheet 2, the dressing 3 which includes a compress 3a, releasably adhered to the non-stick face 2a of the backing 2, the adhesive tape 4 affixed to an edge of the second face 2b of the backing sheet 2 and a removable temporary protection sheet 6 covering the adhesive tape 4.

The subsequent figures depict alternative forms of the device, which still follow the principle of the adhesive backing but have modifications intended to make the dressing easier to take in the normal conditions of use.

Figure 3 depicts a view in section of a dispensing device according to which the dressings 3 provided with compresses 3a, are affixed to the non-stick face 2a of the backing sheet 2 in such a way that one end 3b of the dressing projects beyond the backing sheet 2, so that it is accessible or free and not protected by the backing sheet 2. The adhesive tape 4 is affixed to the rear face 2b of the backing sheet 2, along the edge that corresponds to the free end 3b of the dressings 3. A non-stick protector 6 which covers both the end 3b of the dressings and the adhesive tape 4 is then affixed. It might also be possible to place a first non-stick protector covering all the ends 3b then a second protector covering the adhesive tape 4. The non-stick protector may project slightly beyond the end 3b and/or the adhesive tape 4 to make it easier to grasp hold of.

30

To use this dispensing device, the protector 6 is pulled off and the device is fixed, using the adhesive tape 4, to the edge of a holding element, such as a table, in such a way as to allow the ends 3b of the dressings 3 to protrude

beyond the edge of the table. The end 3b may thus be easily grasped and this allows the dressing to be detached from its backing with great ease.

Figure 4 depicts another alternative form of the device according to the invention, in which the dressings 3 are arranged on the backing sheet 2 in a similar way to the device of Figure 3, with part 3b of the dressing projecting, but the end part 3b of each of the dressings 3 is individually covered with a non-stick protector 7 having a tab 7a for grasping. The adhesive tape 4, still positioned close to the edge supporting the ends 3b of the dressings, is covered with a temporary protector 6 which covers only the adhesive tape 4. To use this device, the dispenser is fixed by means of the adhesive tape 4 to a flat surface, once the protector 6 has been removed. Each dressing can then be grasped individually by its end 3b, which is still protected by the non-stick film 7. When the dressing has been partially applied to the casualty, the protector 7 is removed in the usual way by pulling the tab 7a, which then allows the end 3b to be affixed in order to finish applying the dressing. In this case, it is mentioned that the user at no time touches the adhesive part of the dressing. It can also be pointed out that all these operations are carried out with only one hand, and this constitutes notable progress over the known techniques of the prior art.

When surgical dressings are involved, the dispensing devices as described hereinabove are preferably presented in a sealed package so that the cleanliness and sterility of the dressings are preserved.

As indicated above, this type of device which has here been described for dressings, can also be used to facilitate the dispensing of pieces of adhesive strip such as the strips commonly used in packaging operations, or in fixing operations in industry, or for dispensing labels to be affixed manually.

The various constituent parts of the dispenser are of a type known to those skilled in the art; the backing sheet is of a type commonly used to obtain peel-off protection on pressure-sensitive adhesive tapes; this is, for example,

a sheet of paper or a sheet of polyethylene coated on one of its faces with a non-stick lacquer, for example one based on silicone. The adhesive tape 4 is obtained either by affixing a strip of double-sided adhesive tape, or by laying a single layer of pressure-sensitive adhesive, these two products being
5 put in place with the peel-off protector or protective sheet 6.

According to a practical aspect of the invention, it is advantageous for the backing sheet 2 to be transparent and for the adhesive tape 4 to be coloured so that it can be seen through the backing sheet 2. This identification makes
10 the device easier to affix to the accommodating surface, especially when it is desirable for this device to be affixed to the edge of a table.

In the alternative form depicted in Figure 4, the peel-off half-protector 7 is preferably a polyethylene film.
15

The embodiment which follows gives a better appreciation of the invention.

Use is made of a strip of paper coated with silicone on one face (reference HV67-368 supplied by the company 4P-Rubasil) 8 cm wide and dressings with a compression pad at their centre are affixed transversely to the
20 silicone-coated face. The dressings, the individual size of which is 8 cm x 4 cm are affixed approximately 1 cm from the edge of the strip of silicone-coated paper and therefore project by 1 cm from the second edge of the strip. The protruding part of the dressings is then covered with a strip of
25 paper coated with silicone on one face (the silicone-coated face against the adhesive side of the dressing) 2 cm wide.

A strip of double-sided adhesive tape about 10 mm wide is then affixed to the second edge of the first strip of silicon-coated paper, on the face which
30 is not non-stick.

This strip of double-sided tape consists of a polypropylene carrier film which on one side has a pressure-sensitive adhesive based on natural rubber and

dyed blue and on the other side has a pressure-sensitive adhesive based on acrylic polymers covered with a non-stick temporary protective film. The strip of double-sided tape is affixed to the second edge of the paper backing using the rubber-based adhesive.

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The strip thus obtained is cut into pieces each containing 5 dressings and thus constituting dispensers of five dressings according to the invention which are then packaged and sterilized individually. Such a dispenser can be used, for example, by a practitioner performing sclerotherapy on varicose
 10 veins. Having opened the sachet containing the dispenser, the practitioner removes the protection from the strip of double-sided adhesive tape and affixes the dispenser to the edge of a table, to allow the shortest side of the dressing to protrude off the table. He then removes the narrow strip of silicone-coated paper, thus freeing about 1 cm of the end of the 5 dressings.
 15 These can then be grasped with just one hand and used as required.

In another embodiment represented diagrammatically in Figure 5, use is made of a polyethylene film backing strip 2 and a strip 8 of single-sided pressure-sensitive adhesive tape is affixed to the non-stick face 2a so that it overlaps
 20 by about 1 cm (the adhesive used is based on natural rubber). The free adhesive part is covered with a removable protector 9 of silicone-coated paper. The dressings 3 covered on one end with a removable protector 7 which has a tab 7a are then affixed transversely. These dressings are placed in such a way that the end that has the protector 7, projects beyond the
 25 adhesive edge of the backing strip 2.

This provides a device according to the invention which can be affixed to a table for example by means of the free adhesive part of the tape 9 and in which each of the dressings 3 can easily be picked up by grasping the end of
 30 the protector 7. In the known way, the protector 7 can then be pulled off after the other end of the dressing has been affixed to the casualty's skin. This device avoids any contact between fingers and the adhesive part of the dressing.

The examples described above for dressings are not limiting examples and the dispensers according to the invention can also be used to facilitate operations of affixing labels or pieces of adhesive tape in industry.

5 In another alternative form depicted in Figure 6 which represents the device according to the invention viewed from its back or rear face 2b, a line of weakness 11, which extends in a direction D_1 and is transverse to the direction D_2 of the dressings 3, i.e. parallel to the longitudinal edges 5 of the backing sheet 2, is formed on the said rear face 2b. In this case, the
10 adhesive strip needs to be provided somewhere further away from the edge 5 than in the embodiments depicted in the previous figures. In this way, once the backing strip has been affixed to a holding element, it will be possible to detach that part 12 of the backing sheet that is located between the line of weakness 11 and the nearest edge 5, which will free a part 13 of the
15 dressings and make them accessible, it being possible for all these operations to be carried out with just one hand after the backing sheet 2 has been affixed to the holding element.

It is also possible to provide additional lines of weakness 14 which are
20 formed between the dressings 3 and go in the direction D_2 of the said dressings. In this way, it is possible to free just one dressing, the others remaining fixed to the backing sheet 2 without having a part 13 that has no protection.

25 In the alternative form depicted in Figure 7, a protective sheet 15 is affixed, for example by thermo-welding, along the edges 5, to the backing sheet 2. The connection between the two sheets 2 and 15 is referenced by lines 16 in Figure 7. In addition, lines of weakness 17 may also be provided on the protective sheet 15, these coinciding with the lines of weakness 18 on the
30 backing sheet so as to delimit individual packagings for each one of the dressings 3, the lines of weakness 17 and 18 running parallel to the said dressings 3 or in the direction D_2 defined with regard to Figure 6. It is apparent that when the device according to the invention has lines of

weakness 14, these are formed of part of the lines of weakness 18 when the two embodiments of Figures 6 and 7 are combined. It goes without saying that to be able to separate individual pieces of strip, the adhesive tape 4 or the associated members such as one or more of the removable protectors described with regard to the other embodiments also has appropriate lines of weakness so that when a dressing 3 is detached, the entire unit consisting of the part of the backing sheet and possibly the corresponding part of the protective sheet and the said dressing will comprise part of the adhesive tape 4 allowing the said unit to be affixed to a holding element and will thereafter allow the dressing to be detached with just one hand.

In the foregoing, reference was made to a continuous strip of double-sided adhesive tape 4. However, the adhesive strip in question may be discontinuous and consist of several sticky regions, for example in the form of distinct spots, in order to achieve the desired result which is that of affixing the device to a holding surface. The sticky regions or spots are particularly well suited to the embodiment of Figure 7 because they avoid having to form lines of weakness in the adhesive tape 4.

The dispensing device according to one of the embodiments of the invention as described above may be packaged in one of a number of forms. In a first form, backing sheets 2 comprising a predetermined number of pieces of strip 3, for example between five and ten pieces of strip may be produced, then several backing sheets may be inserted into a pouch.

In a second form, a long backing sheet including pieces of strip and wound into a roll may be provided, the number of pieces of strip needed for a particular operation being detached by the person using it, as required.

CLAIMS

1. A device for dispensing pieces of pressure-sensitive adhesive strip (3)
5 arranged on a front face (2a) of a backing sheet (2) which is capable of being
secured to a holding element (10), characterized in that at least a part of the
pieces of strip is releasably adhered to the said non-stick front face of the
backing sheet, the other part (3b) of the pieces of strip projecting beyond
one side of the backing sheet (2), the projecting parts (3b) of the said pieces
10 of strip being covered with a removable protector (6,7).
2. A device according to claim 1 wherein the means (4,8) for securing
the backing sheet to the said holding element comprises at least one
pressure-sensitive adhesive region (4) arranged on the opposite (rear) face
15 (2b) of the backing sheet (2) to the one (2a) on which the pieces of strip (3)
are arranged, characterized in that a stronger adhesive is provided in the said
region (4) than that holding the pieces of strip (3) on the backing (2).
3. A device according to claim 2 characterized in that the rear adhesive
20 region (4) comprises a continuous strip of double-sided adhesive tape (4)
arranged near one edge (5) of the said backing sheet (2).
4. A device according to claim 2 or claim 3 characterized in that the rear
pressure-sensitive adhesive comprises a layer of adhesive deposited by
25 transfer on the backing sheet (2).
5. A device according to any one of claims 2 to 4 characterized in that
the backing sheet (2) is transparent, and in that the rear adhesive parts (4)
are coloured so that they will be visible through the said backing sheet.
30
6. A device according to any one of claims 1 to 5 characterized in that
the backing sheet (2) comprises a line of weakness (11) extending
transversely to the direction (D_2) of the pieces of strip.

7. A device according to claim 6 characterized in that it further comprises lines (14) of weakness separating the pieces of strip (3) and extending between the transverse line of weakness (11) and the nearest edge (5) of the said backing sheet (2).

5

8. A device according to one of claims 2 to 5 characterized in that the rear adhesive (4) is protected by a removable protector (6).

9. A device according to claim 1 characterized in that the means for
10 securing the backing sheet (2) to the holding element (10) comprises a strip of single-sided pressure-sensitive adhesive tape (8), part of which partially overlaps the front face (2a) of the backing sheet (2) and the other, free, part of which can be fixed to the said holding element (10).

15 10. A device according to claim 9 characterized in that the free part of the strip of single-sided adhesive tape (8) is protected by a removable protector (7).

11. A device according to any one of claims 1 to 10 characterized in that
20 the backing sheet (2) comprises lines of weakness (18) arranged between and parallel to the pieces of strip (3), said lines of weakness extending from one edge of the said backing sheet to the other.

12. A device according to any one of claims 1 to 11 characterized in that
25 the pieces of strip (3) are covered with a protective sheet (15) secured to the backing sheet (2) by at least two of its edges.

13. A device according to claim 11 or claim 12 characterized in that the
30 protective sheet (15) is secured to the edges of the backing sheet transversely to the direction of the pieces of strip and in that it comprises lines of weakness (17) that coincide with the lines of weakness (18) between the pieces of strip (3) of the backing sheet (2).

14. A device for dispensing pieces of adhesive strip (3) arranged on a front face (2a) of a backing sheet (2) characterized in that at least a part of the pieces of strip is releasably adhered to the non-stick front face of the backing sheet, which is capable of being secured to a holding element (10),

5

15. A device for dispensing pieces of adhesive strip substantially as herein described with reference to the accompanying drawings.



Application No: GB 9718069.9
Claims searched: 1-15

Examiner: L.V.Thomas
Date of search: 9 December 1997

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
UK CI (Ed.O): A5R (RBA, RPA) ; B8C (CHA1)
Int CI (Ed.6): A61F 13/02, 15/00; B65D 73/00, 83/08
Other: Online: WPI, CLAIMS

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	EP 0507459 A1 (MINNESOTA MINING) see col.5 ll.2-31	14
X	WO 95/18046 A1 (FRANK) see p.5 l.1 - p.6 l.13, p.13 l.10 - p.14 l.10 and p.15 ll.13-21	14
X	US 5133477 (ETHEREDGE ET AL.) see col.3 l.8 - col.4 l.2 and Figs.2 and 3	1,14

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.